Catalogue of American Amphibians and Reptiles.

Calderón, S., S.R. Bowersox, J.S. Parmerlee, Jr., and R. Powell. 1995. *Anolis barahonae*.

Anolis barahonae Williams

Anolis ricordii barahonae Williams, 1962:8. Type-locality, "Polo, Valle de Polo, Barahona, Dominican Republic." Holotype, Museum of Comparative Zoology (MCZ) 43819, adult female, collected by W.G. Hassler in September 1932 (not examined by authors).
Anolis barahonae: Schwartz, 1974:114. First use of combination.
Anolis baronhae: Fitch, 1981:67. *Lapsus*.
Semiurus barahonae: Schwartz and Henderson, 1988:165.

• **Content.** Four subspecies are recognized: *barahonae*, *albocellatus*, *ininquinatus*, and *mulitus*.

• **Definition.** *Anolis barahonae* is a "giant" anole (maximum SVL in males to 172 mm, in females to 162 mm) characterized by the following: snout scales between 2nd canthals 2-5 (mode 4); 2-8 (mode 6) loreal scale rows, scales between supraorbitals 1-4 (mode 2); 3-5 (mode 4) scales between interparietal and supraorbital semicircles; dorsals generally small (15-34 in snout-eye distance); ventrals relatively small (17-31 in snout-eye distance); nuchal crest scales in both sexes usually moderate to low, dorsal body crest scales rarely moderate, usually low; subocular scales rarely in contact with supralabials.

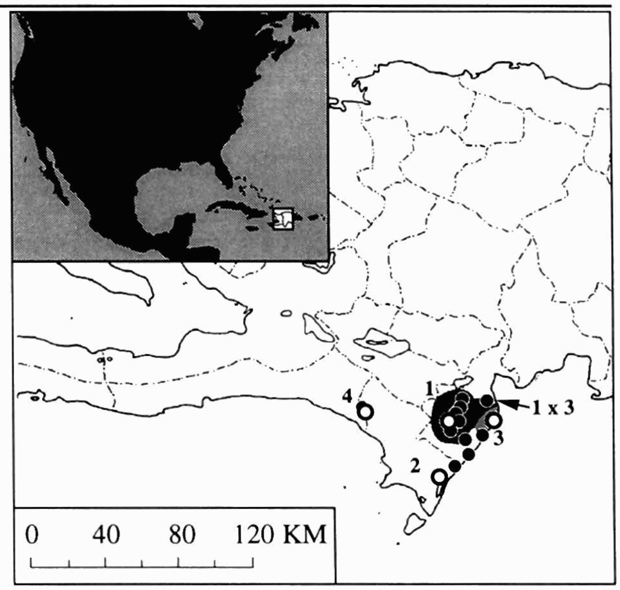
The dorsal body color is basically lichenate gray-green, olivaceous, tan, or gray, with brown and black giving a blotched effect (also in juveniles), at times with 3-4 yellowish dorsal crossbars or their remnants (2 subspecies), or with faintly bluish white, dark-edged ocelli (1 subspecies). The venter is pale greenish tan to cream, or tan or white with brown or gray mottling. The dewlap, present in both sexes, is pale yellow, yellow (white basally), yellow-orange, deep orange, pale yellow with a pink border, to peach in males; pale yellow (at times suffused with gray) to pale peach in females. A pale subocular crescent is absent in adults of most subspecies but indicated in juveniles by a pale subocular spot.

• **Diagnosis.** *Anolis barahonae* can be distinguished from Hispaniolan congeners by the following combination of characteristics: large size (SVL of adults >100 mm); low to moderate middorsal crest scales (*A. baleatus* has high, pointed middorsal crest scales), and a lichenate or crossbanded dorsal pattern (*A. ricordii* has a pattern characterized by irregular dark nuchal blotches, 3 longitudinal dark stripes on each side, or dark saddles).

• **Descriptions.** In addition to the original descriptions by Williams (1962), Schwartz (1974), and Cullom and Schwartz (1980), descriptions may be found in Williams (1965) and Schwartz and Henderson (1991).

• **Illustrations.** Line drawings of dorsal patterns of *A. b. barahonae*, *A. b. ininquinatus*, and *A. b. mulitus* were provided by Cullom and Schwartz (1980). A colored illustration of *A. b. barahonae* is in Schwartz and Henderson (1985). Bowersox et al. (1994) and Powell and Henderson (1996) included color photographs of the same adult male.

• **Distribution.** An Hispaniolan endemic, *A. barahonae* is found in the Sierra de Baoruco and adjacent lowlands of the Península de Barahona. Records are absent from much of the southern Península, although Schwartz (1974) suggested that the species may inhabit these largely inaccessible areas. Altitudinal distribution is from sea level to approximately 800 m. The species is mesophilic to semi-xerophilic and is largely restricted to the crowns of larger trees in riverine and gallery broadleaf woods and forests.



Map 1. Range of *Anolis barahonae* (modified from Schwartz and Henderson, 1991). Large circles mark type-localities, dots indicate other records.



Figure. Juvenile *Anolis barahonae barahonae* (Bobby Witcher Memorial Collection, BWMC 05142) from the Sta. Elena road 6.1 km inland from highway 44 (el. 520 m), Provincia de Barahona, República Dominicana.

The range is illustrated in Williams (1962), Schwartz (1974), Cullom and Schwartz (1980), and Schwartz and Henderson (1991).

• **Fossil Record.** None.

• **Pertinent Literature.** Little information is available beyond that provided in the descriptions of the species and subspecies. Williams (1965) provided descriptions of two additional specimens of what was then considered *A. ricordii barahonae*. Schwartz (1980) included the species in his treatise of Hispaniolan herpetogeography, and Williams (1983) in his analy-

sis of morphology, ecology, and evolution of anoline lizard communities. Wyles and Gorman (1980), Lang (1989), and Burnell and Hedges (1990) mentioned *A. barahonae* in their respective studies of relationships among lizards. SEA/DVS (1990) provided an index to habitats in the Dominican Republic. Schwartz and Henderson (1991) provided summary descriptions of distribution and natural history. Bowersox et al. (1994) discussed diet and compared it with that reported for other West Indian giant anoles. Allen et al. (1994 [1995]) described reproductive biology. Lenart et al. (1996) and Lenart and Sowell (1996) examined the effects of habitat alteration on the composition of an *Anolis* community. Irschick and Losos (1996) included this species in a list of those used in morphological, ecological, and behavioral analyses.

The species is included in guides, checklists, and keys by Schwartz and Thomas (1975), Henderson and Schwartz (1984), Henderson et al. (1984), Schwartz and Henderson (1985, 1988), and Powell et al. (1996).

• **Remarks.** Cullom and Schwartz (1980) concluded that two specimens recorded as having been taken from "Barahona" by W.G. Hassler in 1932 probably came from the Sierra de Baoruco.

Populations from 10-14 km SW of Barahona apparently are composed of intergrades between *A. b. barahonae* and *A. b. ininquinatus* (Cullom and Schwartz, 1980). Specimens from Enriquillo and from between Enriquillo and Oviedo have not been assigned subspecifically and may represent intergradation between *A. b. albocellatus* and *A. b. barahonae* (Schwartz, 1974).

Additional references to *A. barahonae* may be buried in the older literature pertaining to *A. ricordii*, although Williams (1962) stated he was unable to find any references to giant anoles from the Península de Barahona in Hassler's notes.

Frank and Ramus (1995) proposed the common name "Barahona anole" for this species.

• **Etymology.** Although not explicitly stated by Williams (1962), the name *barahonae* obviously refers to the Península de Barahona, the range of the taxon; *albocellatus* is from the Latin *albus* (= white) and *ocellus* (= eye), in allusion to the white spots that are typical of that subspecies; *ininquinatus* is from the Latin meaning "non-spotted," in reference to the absence of dorsal spotting; *mulitus* is derived from El Mulito, the local name for the intersection near the type-locality.

1. *Anolis barahonae barahonae* Williams

Anolis ricordii barahonae Williams, 1962:8. See species synonymy.
Anolis barahonae: Schwartz, 1974:114. See species synonymy.
Anolis barahonae barahonae: Schwartz, 1974:114. First use of trinomial.
Semiurus barahonae barahonae: Schwartz and Henderson, 1988: 165.

• **Definition.** This subspecies is characterized by the following: snout scales at 2nd canthals 3-5 (mode 4), loreal rows 5-8 (mode 6), scales between supraorbital semicircles 3/3-5/5 (mode 4/4), vertical dorsals 15-21 ($\bar{x}$ = 17.9 ± 0.55), horizontal dorsals 15-27 ($\bar{x}$ = 20.1 ± 0.95), ventrals 17-29 ($\bar{x}$ = 23.6 ± 1.09), basic dorsal pattern blotched.

2. *Anolis barahonae albocellatus* Schwartz

Anolis barahonae albocellatus Schwartz, 1974:117. Type-locality, "13.1 mi. (21.0 km) SW Enriquillo, Pedernales Province, República Dominicana." Holotype, Museum of Comparative Zoology (MCZ) 125611 (original number ASFS V4422), adult male, collected by R. Thomas on 10 December 1964 (not examined by authors).
Semiurus barahonae albocellatus: Schwartz and Henderson, 1988:165.

• **Definition.** This subspecies is characterized by the following (based on a single specimen): snout scales at 2nd canthals 3, loreal rows 7, scales between supraorbital semicircles 4/4, vertical dorsals 19, horizontal dorsals 23, ventrals 26, basic dorsal pattern with vertical rows of ocelli.

3. *Anolis barahonae ininquinatus* Cullom and Schwartz

Anolis barahonae ininquinatus Cullom and Schwartz, 1980:94. Type-locality, "5.3 km NE La Ciénega, Barahona Province, República Dominicana." Holotype, Museum of Comparative Zoology (MCZ) 132388 (original number ASFS V39863), adult male, collected by native collectors on 9 August 1974 (not examined by authors).
Semiurus barahonae ininquinatus: Schwartz and Henderson, 1988:165.

• **Definition.** This subspecies is characterized by the following: snout scales at 2nd canthals 3-5 (mode 4), loreal rows 5-6 (mode 5), scales between supraorbital semicircles 4/4-4/5 (mode 4/4), vertical dorsals 18-21 ($\bar{x}$ = 19.4 ± 0.99), horizontal dorsals 20-26 ($\bar{x}$ = 22.4 ± 1.40), ventrals 21-26 ($\bar{x}$ = 23.2 ± 1.56), basic dorsal pattern with remnants of crossbands.

4. *Anolis barahonae mulitus* Cullom and Schwartz

Anolis barahonae mulitus Cullom and Schwartz, 1980:97. Type-locality, "18 km N Pedernales, El Mulito, 153 m, Pedernales Province, República Dominicana." Holotype, Museum of Comparative Zoology (MCZ) 132389 (original number RT 3431), adult male, collected by R. Thomas on 4 August 1975 (not examined by authors).
Semiurus barahonae mulitus: Schwartz and Henderson, 1988: 165.

• **Definition.** This subspecies is characterized by the following: snout scales at 2nd canthals 3-4 (mode 4), loreal rows 5-7 (mode 6), scales between supraorbital semicircles 3/3-3/4 (mode 3/3), vertical dorsals 16-18 ($\bar{x}$ = 17.3), horizontal dorsals 17-23 ($\bar{x}$ = 19.7), ventrals 19-31 ($\bar{x}$ = 23.7), basic dorsal pattern with bold crossbands.

Literature Cited

Allen, A.L., M.K. Albright, and R. Powell. 1994 (1995). Notes on the reproductive biology of *Anolis barahonae* (Squamata: Polychrotidae) a crown-dwelling giant anole from Hispaniola. Herpetol. Nat. Hist. 2:93-95.
Bowersox, S.R., S. Calderón, R. Powell, J.S. Parmerlee, Jr., D.D. Smith, and A. Lathrop. 1994. Nahrung eines Riesenanolis, *Anolis barahonae*, von Hispaniola, mit einer Zusammenfassung des Nahrungsspektrums westindischer Riesenanolis-Arten. Salamandra 30:155-160.
Burnell, K.L. and S.B. Hedges. 1990. Relationships of West Indian *Anolis* (Sauria: Iguanidae): an approach using slow-evolving protein loci. Carib. J. Sci. 26:7-30.
Cullom, S.J. and A. Schwartz. 1980. Variation in the Hispaniolan giant anole *Anolis barahonae* with the description of two new subspecies. Herpetologica 36:93-98.
Fitch, H.S. 1981. Sexual size differences in reptiles. Misc. Publ. Mus. Nat. Hist. Univ. Kansas (70):1-72.
Frank, N. and E. Ramus. 1995. A complete guide to scientific and common names of reptiles and amphibians of the world.

NG Publ., Inc., Pottsville, Pennsylvania.
Henderson, R.W. and A. Schwartz. 1984. A guide to the identification of the amphibians and reptiles of Hispaniola. Milwaukee Pub. Mus. Spec. Publ. Biol. Geol. (4):1-70.
—, —, and S.J. Incháustegui. 1984. Guía para la indentificación de los anfibios y reptiles de la Hispaniola. Mus. Nac. Hist. Nat. Ser. Mono. (1):1-128.
Irschick, D.J. and J.B. Losos. 1996. Morphology, ecology, and behavior of the twig anole, *Anolis angusticeps*, p. 291-301. *In* R. Powell and R.W. Henderson (eds.), Contributions to West Indian herpetology: a tribute to Albert Schwartz. SSAR, Ithaca, New York.
Lang, M. 1989. Phylogenetic and biogeographic patterns of basiliscine iguanians (Reptilia: Squamata: "Iguanidae"). Bonner Zool. Monogr. (28):1-172.
Lenart, L.A., R. Powell, J.S. Parmerlee, Jr., A. Lathrop, and D.D. Smith. 1996. Anoline diversity in three differentially altered habitats in the Sierra de Baoruco, República Dominicana, Hispaniola. Biotropica 28:in press.
— and S.P. Sowell. 1996. Anoline diversity in three differentially altered habitats in the Sierra de Baoruco, Dominican Republic, Hispaniola, p. 442-443. *In* R. Powell and R.W. Henderson (eds.), Contributions to West Indian herpetology: a tribute to Albert Schwartz. SSAR, Ithaca, New York.
Powell, R. and R.W. Henderson (eds.). 1996. Contributions to West Indian herpetology: a tribute to Albert Schwartz. SSAR, Ithaca, New York.
—, —, K. Adler, and H.A. Dundee. 1996. An annotated checklist of West Indian amphibians and reptiles, p. 51-93. *In* R. Powell and R.W. Henderson (eds.), Contributions to West Indian herpetology: a tribute to Albert Schwartz. SSAR, Ithaca, New York.
Schwartz, A. 1974. An analysis of variation in the Hispaniolan giant anole, *Anolis ricordi* Duméril and Bibron. Bull. Mus. Comp. Zool. 146:89-146.
—. 1980. The herpetogeography of Hispaniola, West Indies. Stud. Fauna Curaçao Carib. Isl. 61:86-127.
— and R.W. Henderson. 1985. A guide to the identification of the amphibians and reptiles of the West Indies exclusive of Hispaniola. Milwaukee Pub. Mus., Milwaukee, Wisconsin.
— and —. 1988. West Indian amphibians and reptiles: a checklist. Milwaukee Publ. Mus. Contr. Biol. Geol. (74):1-264.
— and —. 1991. Amphibians and reptiles of the West Indies: descriptions, distributions, and natural history. Univ. Florida Press, Gainesville.
— and R. Thomas. 1975. A check-list of West Indian amphibians and reptiles. Carnegie Mus. Nat. Hist. Spec. Publ. (1): 1-216.
SEA/DVS (Secretaría de Estado de Agricultura/Departamento de Vida Silvestre). 1990. La diversidad biológica en la República Dominicana: reporte preparado por el Departamento de Vida Silvestre para el Servicio Alemán de Cooperación Social-Téchnica y Fondo Mundial para la Naturaleza (WWD-US). Apendices. Sec. Estado Agric., SURENA/DVS. Sto. Domingo, República Dominicana.
Williams, E.E. 1962. Notes on Hispaniolan herpetology 6. The giant anoles. Breviora (155):1-15.
—. 1965. Hispaniolan giant anoles (Sauria, Iguanidae): new data and a new subspecies. Breviora (232):1-7.
—. 1983. Ecomorphs, faunas, island size, and diverse end points in island radiations of *Anolis*, p. 326-370. *In* R.B. Huey, E.R. Pianka, and T.W. Schoener (eds.), Lizard ecology: studies of a model organism. Harvard Univ. Press, Cambridge, Massachusetts.
Wyles, J.S. and G.C. Gorman. 1980. The classification of *Anolis*: conflict between genetic and osteological interpretation as exemplified by *Anolis cybotes*. J. Herpetol. 14:149-153.

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